INSTALLATION

DF5 Series
Fixed-Mount Dome

C1458M-I (11/06)

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Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
6. Do not install near any heat sources, such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
7. Only use attachments/accessories specified by the manufacturer.
8. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
9. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, the apparatus does not operate normally, or the apparatus has been dropped.
10. To reduce the risk of shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.
11. Unless the unit is specifically marked as a NEMA Type 3, 3R, 3S, 4, 4X, 6, or 6P enclosure, it is designed for indoor use only and must not be installed where exposed to rain and moisture.
12. Only use replacement parts Pelco recommends.
13. After replacing/repairing this unit's electrical components, conduct a resistance measurement between line and exposed parts to verify the exposed parts have not been connected to line circuitry.
14. The installation method and materials should be capable of supporting four times the weight of the unit and equipment.

The product and/or manual may bear the following marks:

This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.

This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

CAUTION:
RISK OF ELECTRIC SHOCK. DO NOT OPEN.

Description

DF5 Series domes are discreet surveillance domes that are designed for indoor or outdoor use. Models include pendant and in-ceiling versions.

In-ceiling models have plenum-rated back boxes and can be installed in hard ceilings or standard 2 x 2 ft (6 x 61 cm) suspended ceilings.

Indoor pendant models come in light gray or black finish. Outdoor pendant models are light gray only and include a heater that allows operation down to -60°F (-51°C).

MODELS

DF5-0	Indoor, fixed mount in-ceiling dome, smoked lower dome bubble (1/2 F-stop of light loss)
DF5-1	Same as DF5-0, except clear lower dome bubble (virtually no light loss)
DF5-2	Same as DF5-0, except chrome lower dome bubble (2 F-stops of light loss)
DF5-3	Same as DF5-0, except gold lower dome bubble (2 F-stops of light loss)
DF5-PB-0	Indoor, black, fixed mount pendant dome, smoked lower dome bubble (1/2 F-stop of light loss)
DF5-PB-1	Same as DF5-PB-0, except clear lower dome bubble (virtually no light loss)
DF5-PB-2	Same as DF5-PB-0, except chrome lower dome bubble (2 F-stops of light loss)
DF5-PB-3	Same as DF5-PB-0, except gold lower dome bubble (2 F-stops of light loss)
DF5-PG-0	Indoor, gray, fixed mount pendant dome, smoked lower dome bubble (1/2 F-stop of light loss)
DF5-PG-1	Same as DF5-PG-0, except clear lower dome bubble (virtually no light loss)
DF5-PG-2	Same as DF5-PG-0, except chrome lower dome bubble (2 F-stops of light loss)
DF5-PG-3	Same as DF5-PG-0, except gold lower dome bubble (2 F-stops of light loss)
DF5-PG-E0	Outdoor, gray, fixed mount pendant dome, heater and blower, smoked lower dome bubble (1/2 F-stop of light loss)
DF5-PG-E1	Same as DF5-PG-E0, except clear lower dome bubble (virtually no light loss)

NOTE: DomePak® models include factory-installed and back-focused camera and lens; however, the model numbers above do not include a camera and lens.

Installation

PARTS LIST

The DF5 shipping carton contains two boxes. Inspect each box to make sure all parts are present.

IN-CEILING MODELS

Back Box

Qty	Description
1	Back box with tilt table assembly installed (includes camera and lens if specified with order)
1	Parts bag 1 Conduit fitting with lock nut 1 Safety chain bracket 1 Compass tool 1 Flat washer (models without camera) 1 Split lock washer (models without camera) 1 Screw (models without camera)

Lower Dome

Qty	Description
1	Acrylic lower dome with trim ring

PENDANT MODELS

Back Box

Qty	Description
1	Back box with tilt table assembly installed (includes camera and lens if specified with order)
1	Parts bag (models without camera) 1 Flat washer 1 Split lock washer 1 Screw

Lower Dome

Qty	Description
1	Acrylic lower dome with trim ring
1	Thread compound

BACK BOX

IN-CEILING MODELS, HARD CEILINGS

1. Locate the center point of the mounting location. Drill a hole in the ceiling using a 3/32-inch drill. Insert the compass tool into the hole. Use a pencil and the compass tool to draw a circle on the ceiling. Carefully cut out the circle.

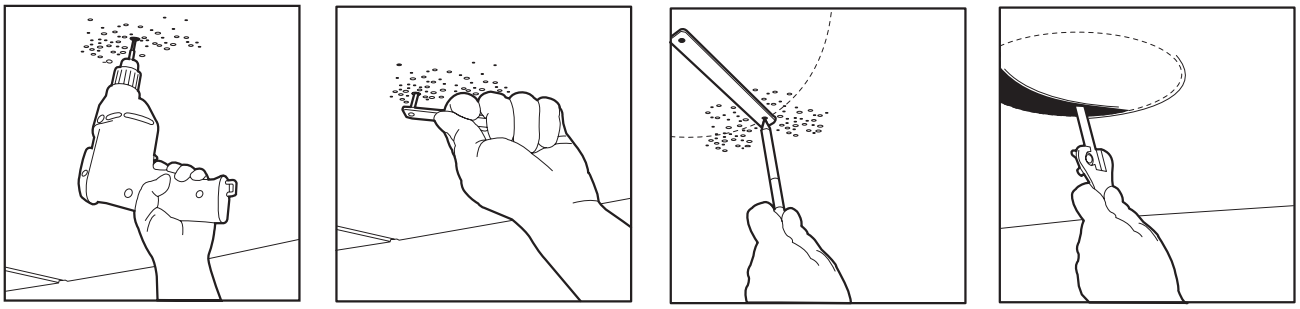


Figure 1. Preparing the Ceiling

2. Attach the conduit fitting, lock nut, and safety chain bracket. Install a safety chain/cable (not supplied) that will support up to 16 pounds (7.3 kg). Install one end of the safety chain/cable to the safety chain bracket and the other end to a support structure in the ceiling.

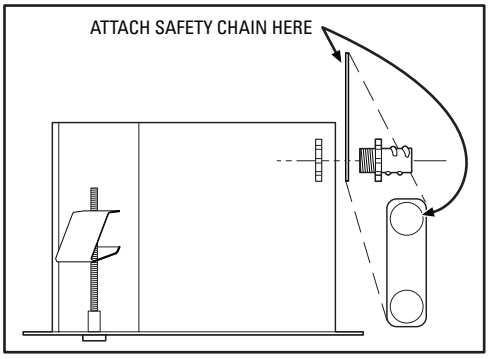


Figure 2. Attaching the Safety Chain

3. Prepare the wiring for camera and lens power; refer to Table A and Table B in the *Appendix* for wiring distances. Pull wiring into the back box through the conduit fitting.

4. Compress the spring clips on the back box and push it through the hole until the clips spring back. Tighten the screws until you hear a clicking noise.

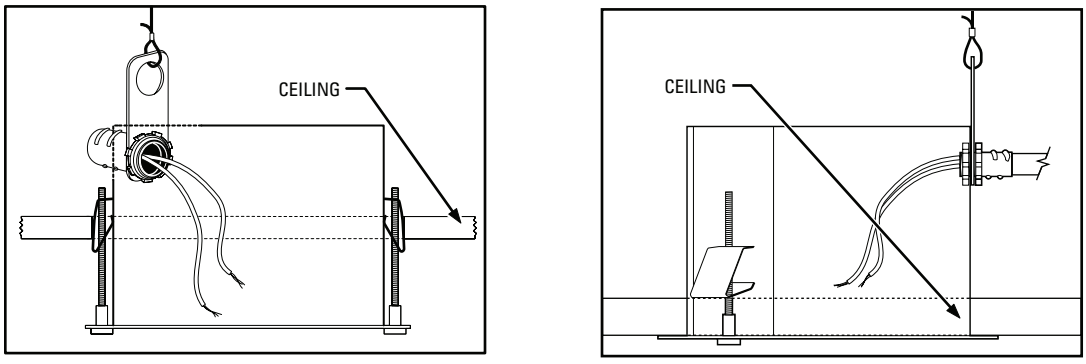


Figure 3. Installing the In-Ceiling Back Box

IN-CEILING MODELS, SUSPENDED CEILING

1. Remove the ceiling tile from the ceiling. Insert the compass tool (supplied) into the center of the tile. (If necessary, use a 3/32-inch bit to drill a hole.) Draw a circle on the tile using the compass tool and a pencil. Carefully cut out the circle.

NOTE: The ceiling tile cannot be thinner than 0.50-inch (1.27 cm) or thicker than 1.75 inches (4.45 cm).

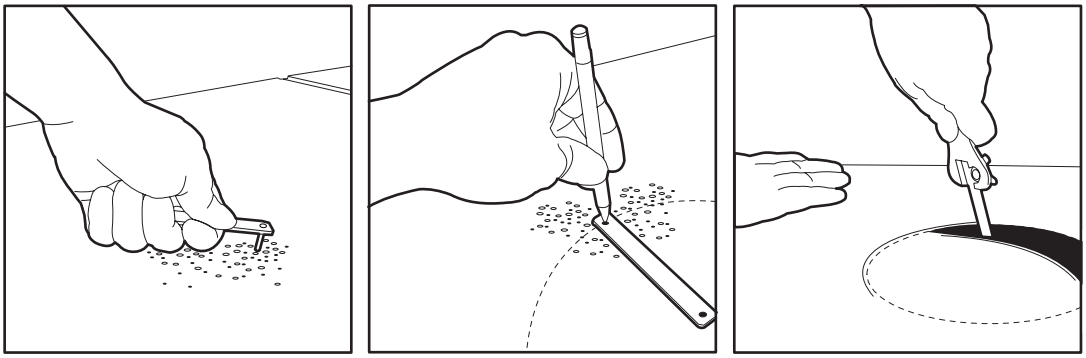


Figure 4. Preparing the Ceiling Tile

2. Attach the conduit fitting, lock nut, and safety chain bracket. Attach to the bracket one end of a safety chain/cable (not supplied) that will support up to 16 pounds (7.3 kg). Refer to Figure 2. Do not attach the other end of the safety chain yet.
3. Compress the spring clips on the back box and push it through the hole until the clips spring back. Tighten the screws until you hear a clicking noise. Reinstall the ceiling tile.
4. Remove adjacent ceiling tile. Prepare the wiring for camera and lens power; refer to Table A and Table B in the *Appendix* for wiring distances. Pull wiring into the back box through the conduit fitting. Attach the safety chain to a support structure. Refer to Figure 2 and Figure 3. Replace the adjacent ceiling tile.

PENDANT MODELS, PENDANT MOUNT

1. Install the mount for the pendant dome. Refer to the instructions supplied with the mount. If you are installing the dome outdoors, make sure the mount is properly sealed to keep moisture from damaging the structure to which it is attached.
2. Bring a coaxial cable for the camera through the mount. Also bring wiring for power through the mount. Refer to Table A and Table B in the *Appendix* for wiring distances.
3. Pull wiring from the mount into the back box. Apply thread compound to the threads on the back box.
4. If you are installing the dome outdoors, seal the inside of the pipe portion of the back box to prevent moisture or cold air inside of the mount from entering the unit and causing condensation on the dome. Use a product such as Duct Seal or a foam insulation spray that is available from an electrical supply store.
5. Screw the back box into the mount.

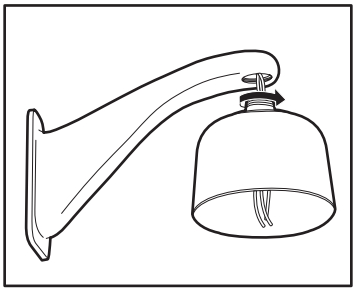


Figure 5. Installing Pendant Mount and Back Box

PENDANT MODELS, SURFACE MOUNT

1. If you have an outdoor model, remove the sun shield.
2. Take out the black tilt table assembly inside of the back box by removing the nuts and washers that hold the three legs to the back box.
3. Take off the top mount by removing the three screws and lock washers inside the back box.

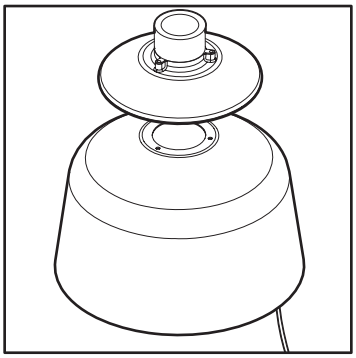


Figure 6. Removing the Top Mount from the Back Box

4. Using the back box as a template, mark the three fastener holes and the center hole for wiring. Using a drill, make the holes for the fasteners and wiring.
5. Bring a coaxial cable for the camera through the center hole in the mounting surface. Also bring wiring for power through the hole. Refer to Table A and Table B in the *Appendix* for wiring distances.
6. If you are installing the mount outdoors, apply sealant around the holes in the mounting surface.
7. Position the back box over the mounting holes and pull the wiring into the back box. Secure the back box to the mounting surface with appropriate hardware for your installation.
8. Reinstall the tilt table assembly.

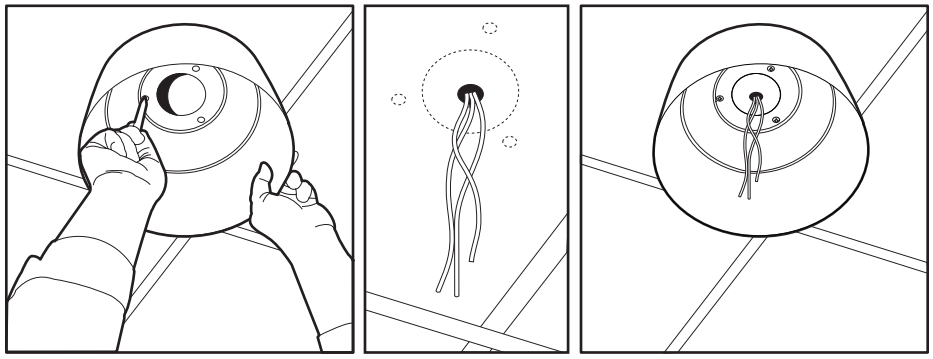


Figure 7. Installing the Surface Mount Pendant Back Box

CAMERA AND LENS

If the camera and lens are already installed, start at step 2.

1. If applicable, extend the lens to the maximum length before installing the camera in the back box. Attach the camera to the tilt table with the 1/4-20 screw, flat washer, and lock washer (supplied).

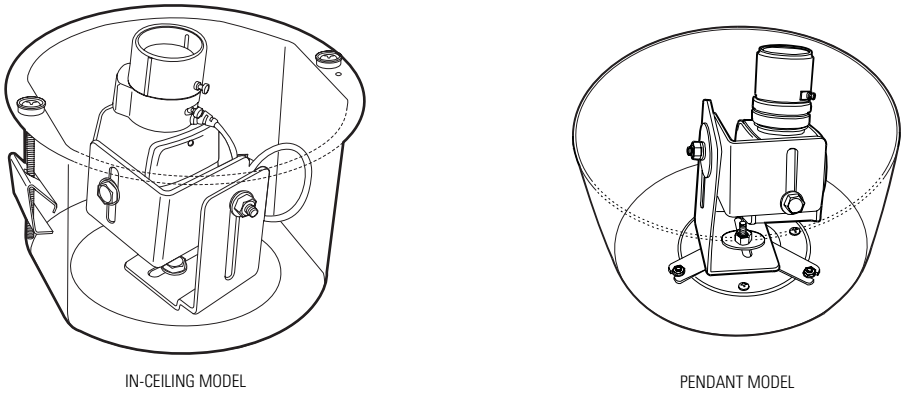


Figure 8. Installing the Camera and Lens

2. For indoor models, connect power wires and video cable to the camera.

3. For outdoor models, connect video cable to the camera. Connect power wires to the circuit board mounted on the side of the back box. Connect the wires to the connectors marked AC IN HI (line voltage), AC IN NT (neutral), and GND.

   Coming from the circuit board are a black wire and a red wire with spade lugs on the end. Connect these to the power connectors on the camera.

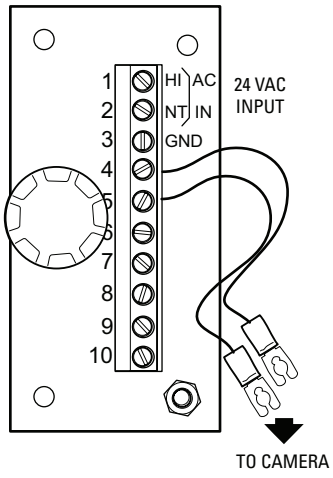


Figure 9. Connecting Camera Power for Outdoor Models

4. Turn on power and adjust the tilt table for desired viewing of the camera on the monitor. Refer to the camera and lens manuals to set up the camera and lens for proper operation.

LOWER DOME

IN-CEILING MODELS

1. Snap the clip on the end of the trim ring leash into the hole on the lip of the back box.
2. Line up the snaps on the trim ring with the mounting screws on the back box. Snap the trim ring into the plastic snap washers on the mounting screws.

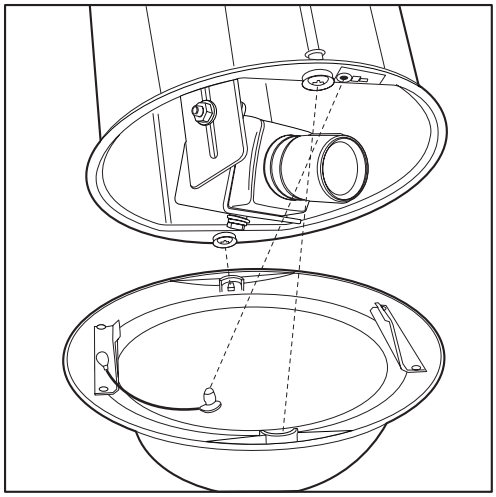


Figure 10. Installing the Lower Dome for In-Ceiling Models

PENDANT MODELS

1. Hanging down from the back box is a flexible strap (the trim ring leash). Hold up the lower dome near the back box so that the trim ring leash touches the lower dome.
2. Look inside the lower dome and note the two raised retainer screws. Slide the hole in the end of the trim ring leash over one of the raised retainer screws. Tuck the end of the trim ring leash behind the raised sheet metal stop, and make sure the leash will hold the lower dome.
3. Line up the two notches on the outside edge of the lower dome with the two captive screws on the back box. Push the lower dome inside the back box, and tighten the screws to secure the lower dome.

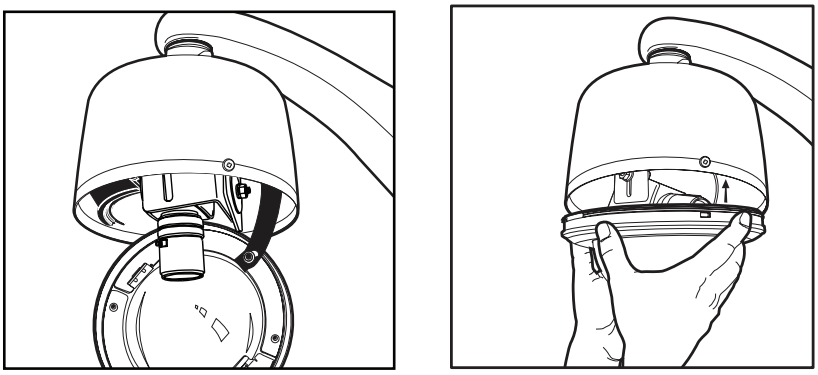


Figure 11. Installing the Lower Dome for Pendant Models

Maintenance

Clean the acrylic dome as needed. Be careful not to scratch the surfaces of the dome.

EXTERIOR SURFACE

Clean the dome's exterior surface with a nonabrasive cleaning cloth and agent that is safe for acrylic plastic. Either liquid or spray cleaner/wax suitable for fine furniture is acceptable.

INTERIOR SURFACE

SMOKED OR CLEAR

Clean the same as the exterior surface.

CHROME OR GOLD

The inside surface of a chrome or gold dome is easily scratched. Use the following precautions to maintain the dome's surface.

- Always handle the dome from the outside of its circular flange.
- Never touch the coated inside surface. The acid in your fingerprints will eventually etch the coating if the fingerprints are not carefully removed according to the *Recommended Cleaning Procedure* section.
- If dust or other contaminants accumulate on the dome's interior, remove the debris with compressed air. Compressed air cans are available from photographic equipment or electronic supply dealers.
- If heavy residue accumulates and cannot be removed with air pressure, rinse with water and immediately dry with air pressure so that water spots will not remain. Avoid wiping the coated surface with direct hand pressure; it will easily abrade unless extreme care is taken. If scratched, the dome cannot be repaired.

RECOMMENDED CLEANING PROCEDURE

If internal wiping is necessary, avoid hand rubbing. Instead, make a wick as follows:

1. Use a very soft paper towel. Roll a section into a tightly wound tube.
2. Tear the tube in half, and wet the fuzzy end of the wick with a solution of isopropyl alcohol diluted with water.
3. Hold the dome with its opening facing downward and wipe the interior of the dome with the wet end of the wick. Use a circular motion, starting from the outside and spiraling into the center.
4. Use a new wick for each two passes over the dome.

SERVICE MANUAL

If you need to service your unit, obtain a service manual in one of the following ways:

- Go to Pelco's web site at www.pelco.com and find service manual C1458SM-A.
- Contact Pelco's Literature Department and request service manual C1458SM-A.

Appendix

Table A. Video Coaxial Cable Wiring Distances

Cable Type*	Maximum Distance
RG59/U	750 ft (229 m)
RG6/U	1,000 ft (305 m)
RG11/U	1,500 ft (457 m)

*Cable requirements:

75 ohms impedance

All-copper center conductor

All-copper braided shield with 95 percent braid coverage

Table B. 24 VAC Wiring Distances

The following are the recommended maximum distances for 24 VAC applications and are calculated with a 10 percent voltage drop. (Ten percent is generally the maximum allowable voltage drop for AC-powered devices.)

		Wire Gauge						
		20	**18**	**16**	**14**	**12**	**10**	
Total VA consumed	**10**	283 (86)	451 (137)	716 (218)	1142 (348)	1811 (551)	2880 (877)	**Maximum distance from transformer to load**
	20	141 (42)	225 (68)	358 (109)	571 (174)	905 (275)	1440 (438)	
	30	94 (28)	150 (150)	238 (72)	380 (115)	603 (183)	960 (292)	
	40	70 (21)	112 (34)	179 (54)	285 (86)	452 (137)	720 (219)	
	50	56 (17)	90 (27)	143 (43)	228 (69)	362 (110)	576 (175)	

EXAMPLE: An enclosure that requires 30 VA and is installed 94 ft (28 m) from the transformer would require a minimum wire gauge of 20 AWG.

NOTES:

- Models with heaters require 24 VAC for the heater. The heater uses 58 VA. If the camera uses 24 VAC, add the camera power to that of the heater and refer to Table B to determine the size of wire to use.
- Distances are calculated in feet; values in parentheses are meters.

Specifications

ELECTRICAL

Input Voltage	24 VAC (outdoor models only)
Input Power	58 VA (for heater)

MECHANICAL

Construction	
Back Box	Aluminum
Mounting Bracket	Steel
Lower Dome	Acrylic
Trim Ring	
Indoor	Eggshell white molded plastic, UL94V0
Outdoor	Plastic

GENERAL

Environment	Indoor or outdoor (depends on model)
Operating Temperature	
Indoor	32° to 120°F (0° to 49°C)
Outdoor*	-60° to 122°F (-51° to 50°C) continuous operation -50° to 122°F (-46° to 50°C) continuous operation; prevents icing -40° to 122°F (-40° to 50°C) continuous operation; de-ices within 3 hours after power-up
Weight	
In-Ceiling (without camera)	2.80 lb (1.27 kg)
Pendant	
Indoor	3.65 lb (1.66 kg)
Outdoor	5.30 lb (2.40 kg)

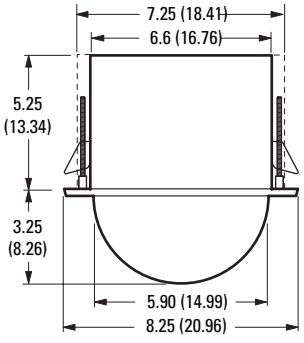
*Assumes no windchill factor; for detailed test conditions, contact Pelco.

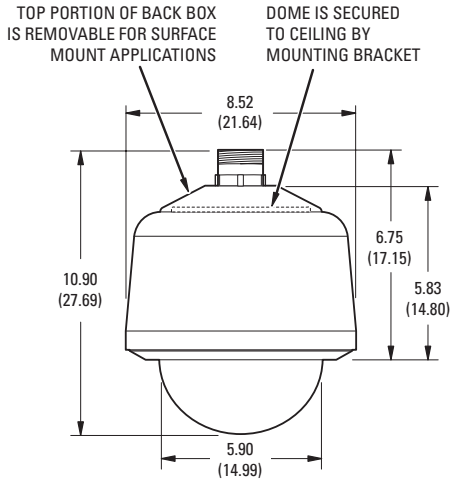
CAMERA

Maximum Camera and Lens Size	5.00" L x 2.75" W x 2.75" H (12.70 x 6.99 x 6.99 cm)

CERTIFICATIONS/RATINGS

UL, cUL	Models DF5-0, DF5-1, DF5-2, DF5-3, DF5-PB-0, DF5-PB-1, DF5-PB-2, DF5-PB-3, DF5PG-0, DF5PG-1, DF5PG-2, DF5-PG-3, DF5PG-E0, DF5PG-E1
NEMA 1, IP 20	In-ceiling models
NEMA 4, IP 66	Pendant models





REVISION HISTORY

Manual #	Date	Comments
C1458M	4/97	Original version.
C1458M-A	7/97	Added indoor pendant models.
C1458M-B	12/97	Added DF5C and DF5M pendant models. Added outdoor pendant models. Removed column for 22-gauge wire from Table B. Added dimensions for pendant models to Figure 17.
C1458M-C	2/98	Deleted references to SD5-P, which is covered in C1459M. Deleted exploded assembly diagrams, which are included in C1458SM. Changed manual pagination.
C1458M-D	5/98	Revised model numbers. Revised camera installation instructions. Removed all material relating to the DF5C and DF5M models. Revised the procedures under Section 3.7, Lower Dome Installation. Revised one Note and deleted another under Section 4.1, *Pendant-Mount Installtion.* Added a Note in Section 4.2, Surface-Mount Installation.
	6/98	Revised Section 4.1 and Figures 9 and 11 because of modifications to top mount.
C1458M-E	5/00	Revised installation instructions and illustrations. Revised camera installation instructions, removed references to obsolete camera models. Updated manual to new format.
C1458M-F	1/02	Revised installation instructions and illustrations. Added illustrations to show power connections for outdoor models.
C1458M-G	8/02	Added CE certification. Revised *Important Safeguards and Warnings.*
	5/05	Revised dimension drawing callout from 7.25 (18.13) to 7.25 (18.41).
C1458M-H	7/06	Revised per ECO 05-11636, which incorporated Spectra III style back boxes and heater/blower assemblies.
C1458M-I	11/06	Corrected input power requirements.

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PRODUCT WARRANTY AND RETURN INFORMATION

WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship **for a period of one year** after the date of shipment.

Exceptions to this warranty are as noted below:

- Five years on FR/FT/FS Series fiber optic products and TW3000 Series unshielded twisted pair transmission products.
- Three years on Spectra® IV products.
- Three years on Genex® Series products (multiplexers, server, and keyboard).
- Three years on Camclosure® and fixed camera models, except the CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models, which have a five-year warranty.
- Three years on PMCL200/300/400 Series LCD monitors.
- Two years on standard motorized or fixed focal length lenses.
- Two years on Legacy®, CM6700/CM6800/CM9700 Series matrix, and DF5/DF8 Series fixed dome products.
- Two years on Spectra III™, Esprit®, ExSite™, and PS20 scanners, including when used in continuous motion applications.
- Two years on Esprit and WW5700 Series window wiper (excluding wiper blades).
- Two years (except lamp and color wheel) on Digital Light Processing (DLP®) displays. The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.
- Eighteen months on DX Series digital video recorders, NVR300 Series network video recorders, and Endura™ Series distributed network-based video products.
- One year (except video heads) on video cassette recorders (VCRs). Video heads will be covered for a period of six months.
- Six months on all pan and tilts, scanners or preset lenses used in continuous motion applications (that is, preset scan, tour and auto scan modes).

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to Pelco, Clovis, California. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental or consequential damages (including loss of use, loss of profit and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800) 289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, Sales Order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product which does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

RETURNS

In order to expedite parts returned to the factory for repair or credit, please call the factory at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair).

All merchandise returned for credit may be subject to a 20% restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid. Ship to the appropriate address below.

If you are located within the continental U.S., Alaska, Hawaii or Puerto Rico, send goods to:

Service Department
Pelco
3500 Pelco Way
Clovis, CA 93612-5699

If you are located outside the continental U.S., Alaska, Hawaii or Puerto Rico and are instructed to return goods to the USA, you may do one of the following:

If the goods are to be sent by a COURIER SERVICE, send the goods to:

Pelco
3500 Pelco Way
Clovis, CA 93612-5699 USA

If the goods are to be sent by a FREIGHT FORWARDER, send the goods to:

Pelco c/o Expeditors
473 Eccles Avenue
South San Francisco, CA 94080 USA
Phone: 650-737-1700
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Green The materials used in the manufacture of this document and its components are compliant to the requirements of Directive 2002/95/EC.

This equipment contains electrical or electronic components that must be recycled properly to comply with Directive 2002/96/EC of the European Union regarding the disposal of waste electrical and electronic equipment (WEEE). Contact your local dealer for procedures for recycling this equipment.

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